

can only be accomplished by walking over the territory to be inspected. A cable-type bond, except in cases of injury, rarely breaks except close to the plug and the failure at this point is gradual. First, one strand will break and then the remaining strands fail, one by one. I am satisfied that, in practically every instance, the complete failure of a stranded bond, involving the successive breakage of all the individual strands, occupies a period of several months or even a year.

By walking over the territory and inspecting each end of every bond, as outlined above, nearly all the defective bonds will be located. These bonds will be found to have one or several broken strands, and replacement can be made before they have failed. However, if an inspection of bonding is attempted from a motor car, or any other vehicle, the fracture will not be discovered until it is complete, and the end of the bond separated from the plug.

My experience has been that a semi-annual inspection, as above described, will result in the removal of practically every defective bond before a failure has occurred. Of course, under certain conditions such as light steel and fast traffic, the periods of inspection would have to be more frequent.

No electrical test can be relied upon to indicate the presence of defective bonds, as the conductivity of the angle bars varies greatly, due to rust, loose bolts, etc.

Lights Interfere with View of Signals

"What special arrangements have you found necessary at certain locations to prevent street lights, lamps on buildings, or advertising signs from interfering with an engineman's view of signals?"

Local Authorities Co-operate

O. R. Unger

Signal Supervisor, Missouri Pacific
Nevada, Mo.

Complaints arising from interference with signal indications as a result of street lights, signs, etc., usually come from enginemen who happen to be working on a division other than that covered by their regular run. In such instances an engineman will often find many de-

fects that he would not notice on his own territory.

However, we have been very successful in the past in remedying these conditions. In a few instances we have consulted with the local street commissioner or the power company and had the objectionable lights relocated. In most cases they are glad to co-operate.

In other instances we have hooded these lights in order to overcome the objections.

Shields Stop Interference Caused by Street Lights

P. A. Starck

Assistant Signal Supervisor, C. & N.W.,
Sioux City, Ia.

Newly-installed street lights, lamps on buildings, or advertising signs are often found to interfere with an engineman's view of some signal. We recently encountered a case of this kind involving a street light so situated as to be directly back of and very nearly in line with the home signal light of an interlocking plant as seen by the engineman of an approaching train.

This particular case was corrected by mounting a 3-ft. square sheet-metal shield between the street light and the signal. It so happened that a line pole already in use for other purposes was properly situated with reference to the offending light and this pole was utilized for supporting the shield.

The shield effectively corrected the situation. The same method has been applied at a number of other places effectively. Sometimes it is found necessary to set a new pole or to move a nearby pole to the proper location for the purpose of supporting the shield. Where it is necessary to set a pole, it should be placed as closely to the interfering light as local conditions will permit in order that the shield may be small but yet effectively cover the light.

There have been several instances particularly at flood-lighted properties located in the immediate vicinity of highway crossing signals where the relative alinement of the protective devices and flood lights was such as to render the lights in the signals ineffective. At a number of such places the undesirable condition was corrected by simply refocusing the flood lights and changing their adjustable hoods and reflectors so as to shift their principal focus away from the signals. In all of these cases the proprietors of the establishments co-operated by permitting the readjustments to be

made upon being informed of the circumstances.

Less Trouble with Color Lights

A. J. Yarrell

General Signal Inspector, Texas & Pacific, Dallas, Tex.

Only one case of an obstructed signal indication has come to my attention on the Texas & Pacific. This was remedied by adding about 10 ft. to the color-light signal mast; preventing a new train shed over a station platform from obstructing the view.

When we prepare the location plans for a new signal installation all such obstructions as mentioned in the question are carefully considered and the signals are located accordingly. Where it has been necessary to relocate signals in the vicinity of new underpasses, etc., we have experienced very little difficulty.

Of course, most of our signals are of the color-light type. In my opinion they have some advantage over the semaphore type in this respect.

Testing New Interlocking

"In testing a new interlocking prior to placing it in service, which of the following methods do you consider the most reliable: (a) An operating test of each individual function under all normal conditions or (b) detailed checking of each branch of all circuits according to the circuit plan? Why?"

Light Engine Used in Testing

J. H. Butridge

Chief Signal Inspector, Illinois Central
Chicago

In testing a new interlocking plant before placing it in service it is most important to check all circuits against the wiring plan. Such tests can be made by the wireman who handles the work and after completing these tests he reports that the circuits are ready for inspection.

A competent inspector working with the signalman performing the work should check each individual circuit and the tagging against the circuit plan. In my opinion no plant should be put in service until there is absolute assurance that the circuits

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